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ABSTRACT

This document consists of a learning activity packet (LAP) for the student and an instructor's guide for the teacher. The LAP is intended to acquaint occupational home economics students with the workings of and equipment found in commercial kitchens. Illustrated information sheets and learning activities are provided on each of the following topics: work stations, kitchen flow, and major kitchen equipment (receiving, storage, preparation, cold foods, baking, hot foods, pickup and holding, and dishwashing equipment). The instructor's guide begins with an instructional matrix in which the information sheets and written activities contained in the LAP and the written test items included in the instructor's guide are cross-referenced to the knowledge objectives addressed by the materials. This is followed by a series of notes to instructors on the LAP series and suggested instructional procedures for use in conducting individual and group enrichment activities. A unit test and answer key are included. (MN)

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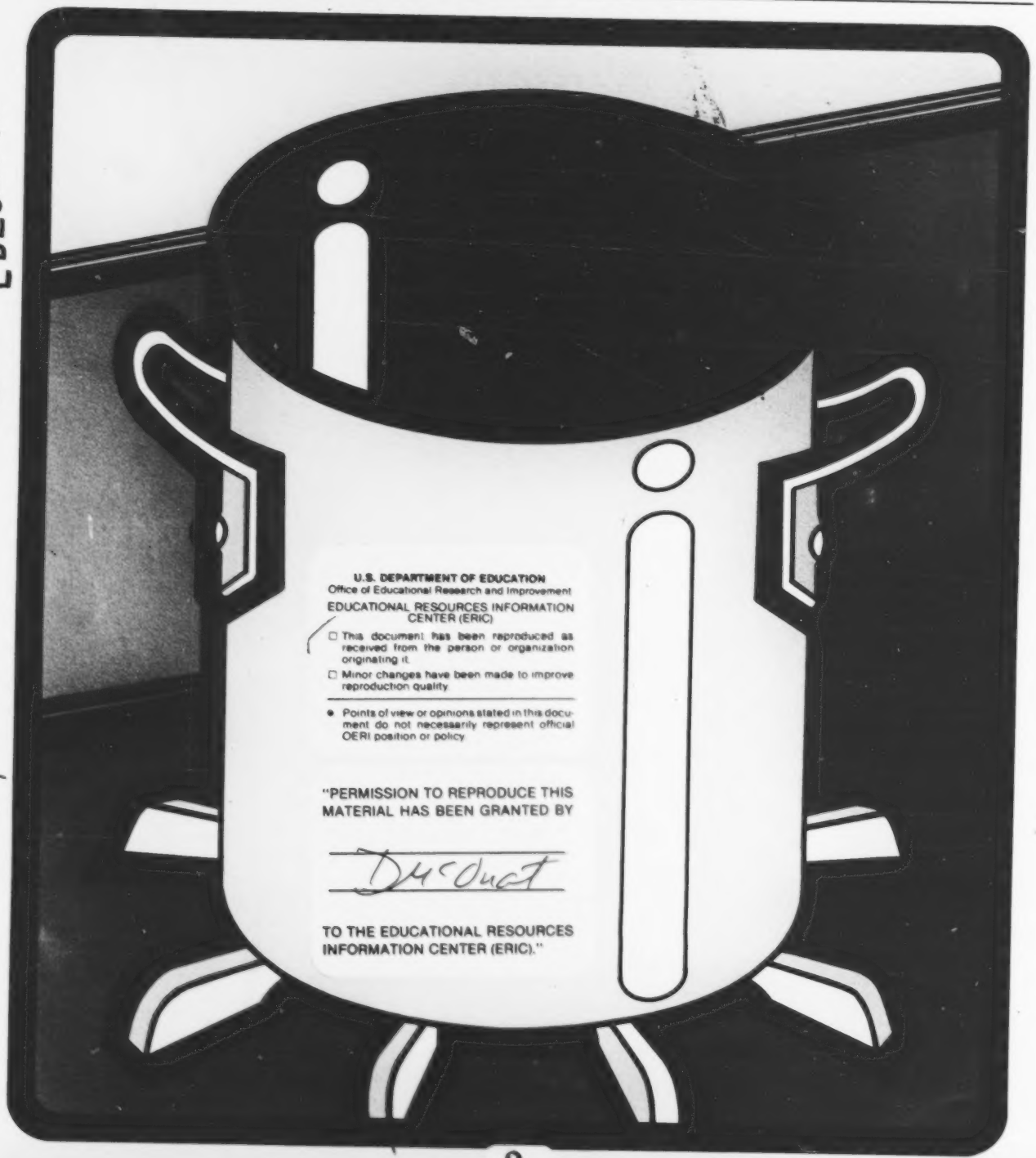
LEARNING ACTIVITY PACK 4.1

SECTION 4

Introduction to Commercial Cooking Equipment

Equipment Handling, Operation, and Maintenance



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LEARNING ACTIVITY PACK

4.1

SECTION 4

Introduction to Commercial Cooking Equipment

Equipment Handling, Operation, and Maintenance

State of Florida
Department of Education
Ralph D. Turlington, Commissioner of Education
Tallahassee, Florida
Affirmative action/equal opportunity employer

Division of Vocational, Adult, and Community Education

January 1985

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These materials are endorsed for use in training commercial foods and culinary arts workers by the **Florida Restaurant Association's Education Foundation.**

Purpose and Contents

Purpose

The purpose of LAP 4.1 is to acquaint you with the commercial kitchen—its various work stations, its flow of products and supplies, and its equipment. Once you understand how a kitchen is designed, you will be able to work more efficiently and safely.

Contents

Introduction 2

Vocabulary 3

Work Stations and Kitchen Flow 5
Work Stations 5
Kitchen Flow 7

Major Kitchen Equipment 10
Receiving Equipment 10
Storage Equipment 10
Prepreparation Equipment 11
Cold Foods Equipment 12
Baking Equipment 13
Hot Foods Equipment 15
Pickup and Holding Equipment 20
Dishwashing Equipment 21

Answer Keys for Written Activities 25

Introduction

Written Test

You will be able to pass the written test for LAP 4.1 when you can successfully complete the following:

1. Match a list of vocabulary words with their definitions. (At least 7 out of 8 must be correct.)
2. Match descriptions of work stations with their correct names. (All 8 must be correct.)
3. Complete statements about kitchen flow by filling in the blanks. (At least 9 out of 10 must be correct.)
4. Match pictures of kitchen equipment with their correct names selected from a word bank. (All 11 must be correct.)
5. Match descriptions of kitchen equipment with their correct names selected from a word bank. (At least 10 out of 11 must be correct.)

If you feel you know enough to pass the written test for LAP 4.1 before studying it, talk with your instructor.

Learning Steps

To help you pass the written test for this LAP, you should follow these learning steps in order. There is only one kind of activity you will be asked to do:

Written activities will prepare you for the **written test.** They should all be done on a separate sheet of paper. **Do not write in this LAP!**

1. Read and study **Information Sheet 1:** Vocabulary.
2. Complete **Activity 1:** Matching Vocabulary Words. Check your answers.
3. Read and study **Information Sheet 2:** Work Stations and Kitchen Flow.
4. Complete **Activity 2A:** Work Stations. Check your answers.
5. Complete **Activity 2B:** Kitchen Flow. Check your answers.
6. Read and study **Information Sheet 3:** Major Kitchen Equipment.
7. Complete **Activity 3A:** Matching Kitchen Equipment Pictures. Check your answers.
8. Complete **Activity 3B:** Matching Kitchen Equipment Descriptions. Check your answers.
9. Get **Written Test 4.1** from your instructor and complete it. If you are successful, you have completed this LAP; if not, talk with your instructor.

Information Sheet 1
Vocabulary

The following words will be used in this LAP. Study the list. When you think you know all the words, test yourself by doing the Practice Activity.

1. **work station**—an area in a kitchen where workers perform similar tasks; examples—baking work station, and hot foods work station
2. **kitchen flow**—the movement of foods and supplies through a kitchen
3. **garbage**—food waste
4. **trash**—*manufactured products* that have become waste, such as cardboard boxes, metal cans, plastic or paper cups
5. **beverage**—a liquid for drinking, such as coffee, milk, or a soft drink
6. **radiant heat**—heat from an electric heating coil or a gas flame
7. **infrared heat**—invisible heat rays that can be used to cook food
8. **insulated**—built with special material to prevent loss of heat or cold

Activity 1
Matching Vocabulary Words

Directions

On a separate sheet of paper, write each vocabulary word and then write the correct definition, chosen from the list below.

Vocabulary Words

1. **work station** _____
2. **kitchen flow** _____
3. **garbage** _____
4. **trash** _____
5. **beverage** _____
6. **radiant heat** _____
7. **infrared heat** _____
8. **insulated** _____

Definitions

Manufactured products that have become waste, such as cardboard boxes, metal cans, plastic or paper cups

Food waste

Invisible heat rays that can be used to cook food

Built with special material to prevent loss of heat or cold

An area in a kitchen where workers perform similar tasks

The movement of foods and supplies through a kitchen

Heat from an electric heating coil or a gas flame

A liquid for drinking, such as coffee, milk, or a soft drink

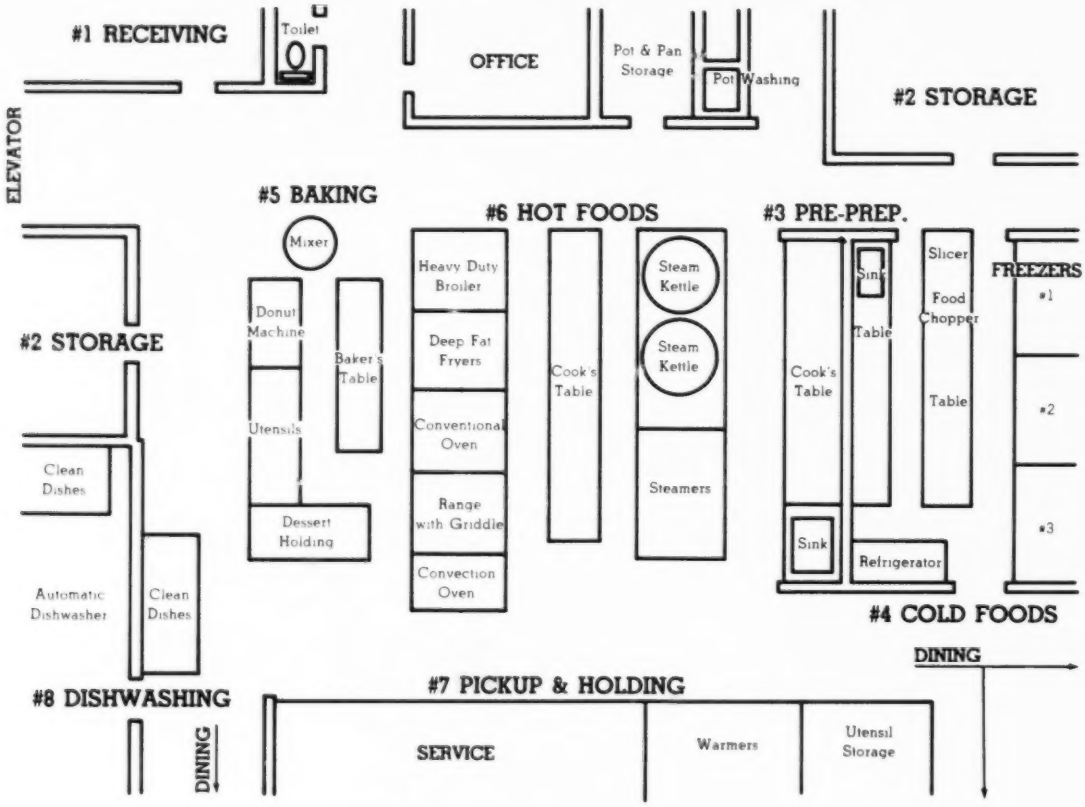
Check your answers in the back of this LAP. If you missed any, review Information Sheet 1.

Information Sheet 2
Work Stations and Kitchen Flow

Work Stations

Most large food services and gourmet restaurants have work stations for receiving, storage, prepreparation, cold foods, baking, hot foods, pickup and holding, and dishwashing. Workers in each work station have specific responsibilities and duties in the process of preparing and serving food. The equipment and supplies are placed so they can easily and quickly be reached by the workers in each station. This makes the food service rapid, efficient, and safe. Generally, the more equipment needed to prepare the food, the more work stations there are in a kitchen.

In smaller restaurants and fast-food services, some of these stations are combined —for example, hot foods and bakery—or they may not be present at all. This will often depend upon the market form of the food (the form of the food when it is bought) used in the establishment. For example, ready-to-cook, prebreaded shrimp needs only to be deep-fat fried and served. But fresh shrimp needs to be cleaned in the prepreparation area, breaded in the preparation area, and then cooked in the hot foods area. A typical restaurant floor plan is shown below.



Work Stations

1. Receiving
2. Storage
3. Prepreparation
4. Cold Foods
5. Baking
6. Hot Foods
7. Pickup and Holding
8. Dishwashing

Information Sheet 2 (continued)
Work Stations and Kitchen Flow

The **receiving area** is where foods and supplies are received, counted, weighed, and checked against the invoice order. From here the products are moved to one of the other kitchen stations for storage, prepreparation, or immediate use.

Storage areas are used for holding foods and supplies until they are needed in the kitchen. There are two types of storage: dry and cold. Dry storage areas contain such items as grains, utensils, canned goods, and cleaning supplies. These areas should be kept clean, dry, and well-organized for easily locating goods. Cold storage products such as meats, fruits, and vegetables are kept in refrigerators or freezers.

In the **prepreparation area** foods are washed, cleaned, trimmed, and cut. Then they are moved either into cold storage or into a food preparation area. Fresh fruits, vegetables, meats, and some seafoods usually are the only products that go through this station.

Foods that do not require cooking are prepared in the **cold foods area**. Typical foods prepared in this area are cold sandwiches, salads, cold meats, some seafoods, appetizers, juices, and some desserts.

Larger restaurants have a **baking area** where only quick breads, yeast breads, and baked desserts such as cakes, pies, and pastries are prepared.

The **hot foods area** is one of the busiest stations. All foods that need cooking are prepared here. Methods of preparation include baking, broiling, boiling, steaming, frying, deep frying, and microwave cooking. The main types of foods cooked in this station are appetizers, soups, sauces, vegetables, and entrees (main dish of a meal).

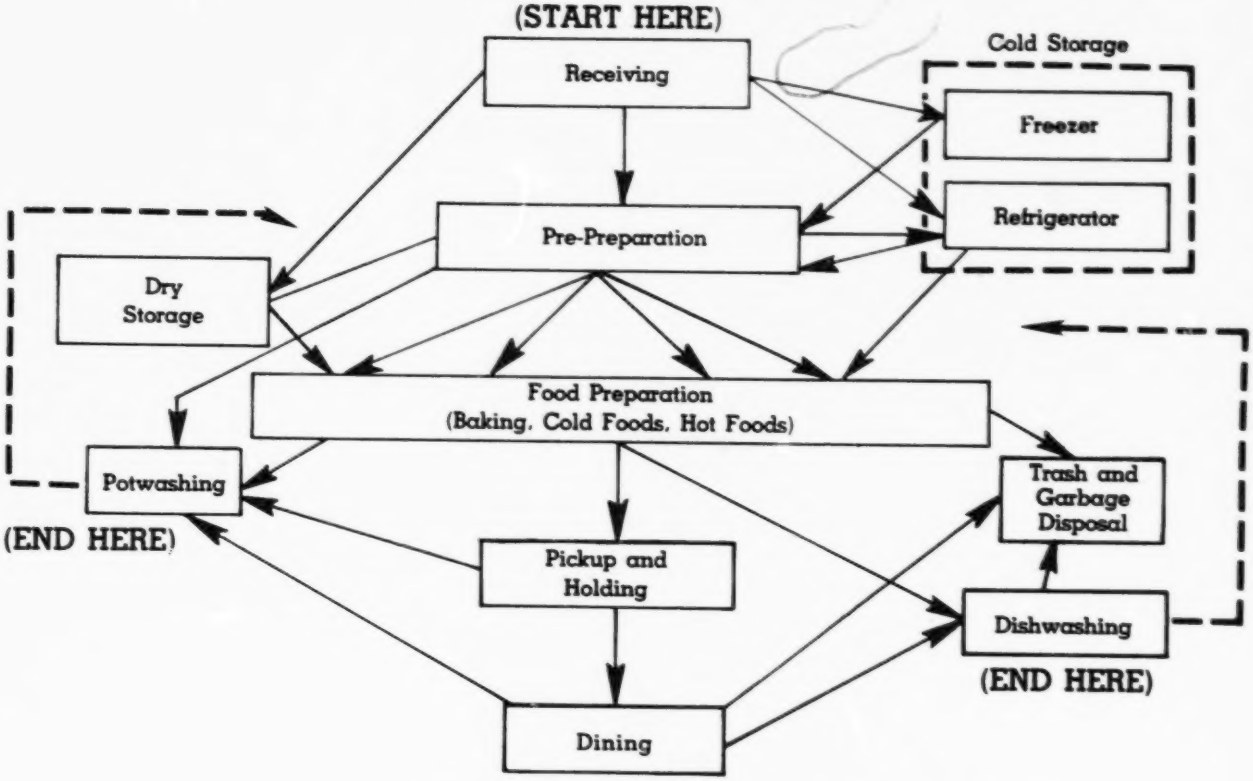
Food that has been prepared and is ready to be served goes to the **pickup and holding area**. Here hot foods are kept under heat lamps or on steam tables. Cold foods are kept cool on electronically cooled counters or on a bed of ice. Beverages may be prepared in this station.

When dirty tableware, utensils, and uneaten food are cleared from the dining area, they are taken to the **dishwashing area**, also known as the scullery. Here workers separate out the trash, garbage, and dirty dishes. The trash usually is burned or picked up by a waste disposal company. The leftover food is scraped into garbage cans or disposals. Dirty dishes are rinsed and washed in automated dishwashing machines, then stacked and stored for future use. Dirty pots, pans, and kitchen utensils usually are washed and cleaned in separate potwashing sinks located near the food preparation work stations.

Information Sheet 2 (continued)
Work Stations and Kitchen Flow

Kitchen Flow

Kitchen flow is the movement of foods and supplies through the kitchen. Kitchen flow is like an assembly line for food preparation. Understanding kitchen flow will help you work more efficiently and save you time and energy as you prepare appetizing meals for your customers. The diagram below shows how kitchen flow works.



All items enter the kitchen through the receiving area where they are checked by the manager. Food items that need cleaning and trimming, such as meats, fruits, and vegetables, go to the pre-preparation area. From there they go to a food preparation area or they are put in cold storage. Most food items coming into the receiving area go directly into cold storage or dry storage. When an item is needed, it is moved from storage into one of the food preparation areas. After food is prepared, it is moved into the pickup and holding area and then served to the customer. Dirty dishes, pots, pans, and utensils are taken to the dishwashing and potwashing areas for cleaning and drying. Trash and garbage are disposed of as needed.

Activity 2A
Work Stations

Directions

Read the following descriptions of kitchen work stations. **On a separate sheet of paper,** write out the descriptions. Then write the names of the work stations beside their descriptions. Select the names of work stations from the word bank below.

DO NOT WRITE IN THIS LAP

1. _____: Foods that do not require cooking are prepared here.
2. _____: This is one of the busiest work stations in the kitchen; foods that need cooking are prepared here.
3. _____: Foods and supplies are counted and weighed here.
4. _____: Here trash, garbage, and dirty dishes are separated out.
5. _____: Foods and supplies are kept here until needed at the other work stations.
6. _____: Cakes, pies, and pastries are made here in larger restaurants.
7. _____: Food is kept warm or cool here until ready to serve.
8. _____: Certain foods are cleaned, trimmed, and cut up in this station.

Word Bank

receiving area
storage area
prepreparation area
cold foods area
baking area
hot foods area
pickup and holding area
dishwashing area

Check your answers in the back of this LAP. If you missed any, review Information Sheet 2.

Activity 2B
Kitchen Flow

Directions

Read the following statements. **On a separate sheet of paper,** write out the statements and fill in the blanks with the correct words selected from the word bank below.

1. Kitchen flow is the _____ of food and supplies within and through a kitchen.
2. All items enter the kitchen through the _____ area.
3. Most items coming into the kitchen go directly to the _____ areas.
4. Two types of storage areas are _____ and _____.
5. As items are needed, they are moved from storage into a _____ area.
6. _____ is like an assembly line for food preparation.
7. Understanding kitchen flow will help you _____ more efficiently and save you _____ and _____ in preparing meals.

Word Bank

energy
movement
hot
time
work station
dry
pickup and holding
work
receiving
food preparation
cold
storage
wet
kitchen flow
type

Check your answers in the back of this LAP. If you missed any, review Information Sheet 2.

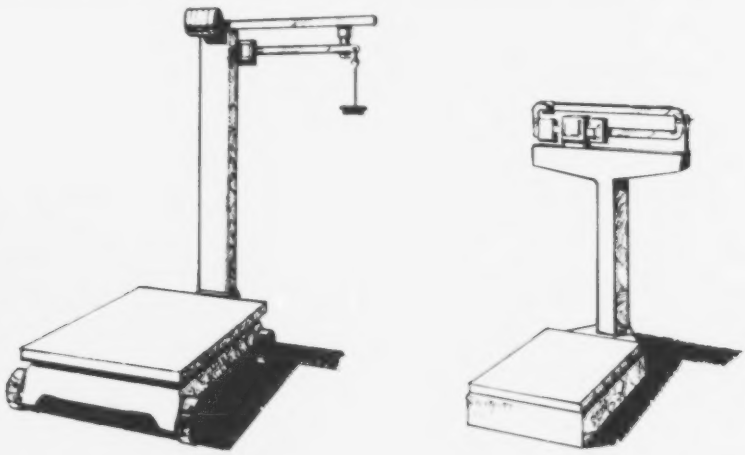
Information Sheet 3
Major Kitchen Equipment

The number and kinds of items listed on a menu determine the types of equipment needed to prepare the food. Generally, the more items there are on a menu, the more equipment is needed. In this section, we will look briefly at some of the major pieces of commercial cooking equipment found in each work station.

Note: Improper use of most of this equipment may be extremely hazardous! Do not attempt to use any of these items until you have received proper directions from your instructor and permission to use the equipment.

Receiving Equipment

The **platform scale,** one of the most commonly used pieces of equipment in the receiving area, is used to weigh incoming products and check the weights against those given on the invoices.



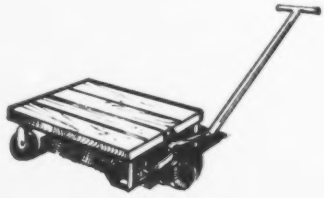
Platform Scales
(Note: Scales may be portable or stationary.)

Storage Equipment

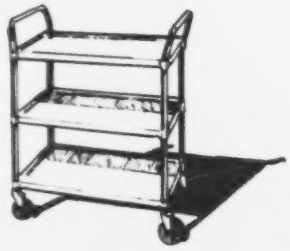
Shelving is used in the storage areas to increase the total storage space. **Dollies** and **carts** are used for moving products in and out of storage. **Refrigerators** and **freezers** come in a variety of sizes, shapes, and models, depending upon their intended use. For more information on storage areas and the equipment used in them, see LAP 6.3, *Inventory Control and Purchasing.*

Information Sheet 3 (continued)
Major Kitchen Equipment

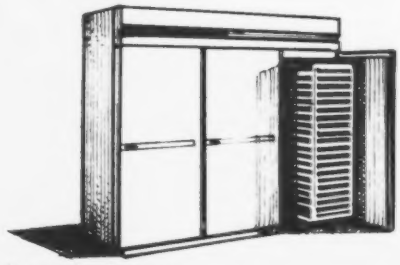
Shelving



Dolly



Cart



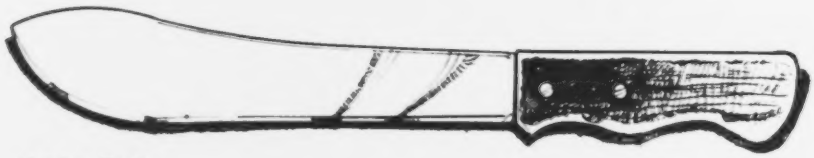
Frozen-food storage

Prepreparation Equipment

A **large sink** for washing and cleaning fresh produce and meats is a necessity in the prepreparation area. **Knives and cutlery** also are used to prepare food for transfer to other areas. For detailed information on knives and cutlery, see LAP 4.5, *Sharpening, Using, and Caring for Knives.*

Paring Knife

Citrus Knife



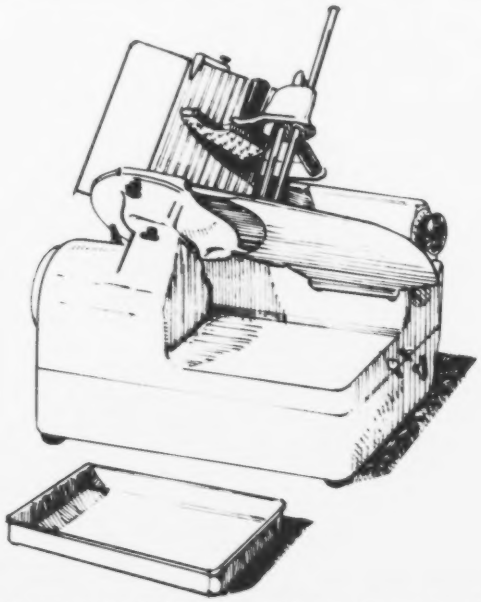
Butcher Knife

Information Sheet 3 (continued)
Major Kitchen Equipment

Cold Foods Equipment

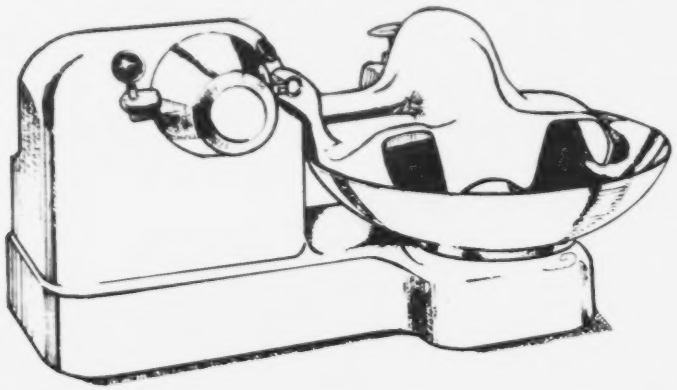
DANGER

A **slicer** is used to cut foods such as cheeses and meats into slices of equal thickness. The thickness of the slices can be changed by adjusting the control knob. The slicer also can be used to shred foods such as lettuce and cabbage. This is a very useful machine but it can also be extremely dangerous. **Do not attempt to use the slicer until you have received proper instructions!**



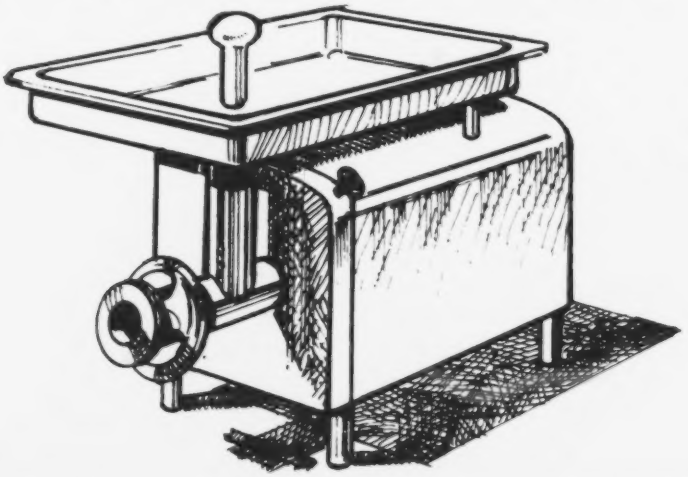
DANGER

The **food chopper** (buffalo chopper) can be a great time-saver when food needs to be cut into small pieces. Sharp metal blades spin at high speed to thoroughly chop up the food. The chopper also has a variety of attachments to perform such jobs as grinding, slicing, dicing, and shredding. Remember, **do not attempt to use this machine until you have received proper instructions!**

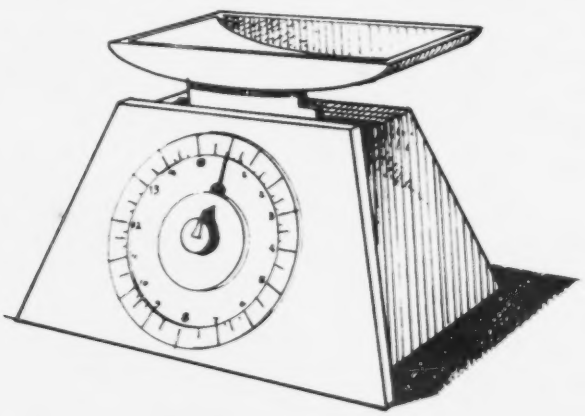


Information Sheet 3 (continued)
Major Kitchen Equipment

The **food grinder** is used to chop and grind food into small chunks. It is most often used to make ground meat. Various head attachments can be used for slicing, shredding, and even knife sharpening.



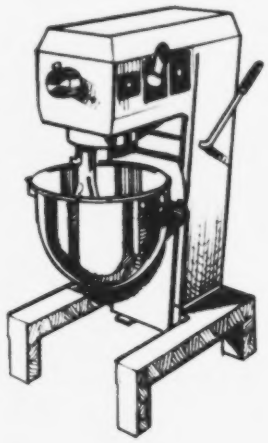
Portion scales are used to accurately weigh the amount of food for a single serving, such as filling for a sandwich. For additional information on portion scales, see LAP 5.1b, *Weighing and Measuring; Reading and Converting Recipes.*



Baking Equipment

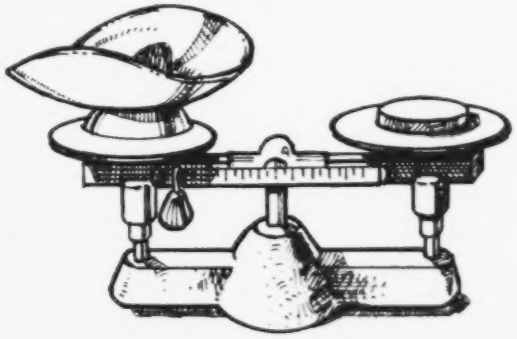
Equipment in the baking area is used to prepare the quick breads and yeast breads, baked desserts and pastries served in full-order restaurants or cafeterias. Some of this equipment also is used in other work stations, especially the hot foods area.

Information Sheet 3 (continued)
Major Kitchen Equipment

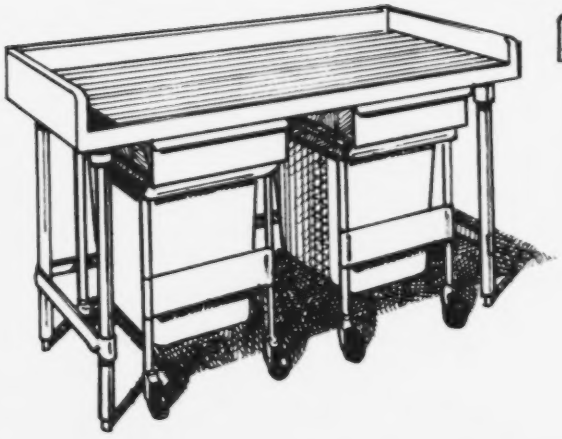


With its variety of attachments, the **mixer** can do many jobs efficiently. Besides mixing it can beat, knead, grind, whip, chop, and more.

The **baker's scale** is an accurate tool for weighing ingredients or bread dough to make uniform-sized loaves. For additional information on the baker's scale, see LAP 5.1b, *Weighing and Measuring; Reading and Converting Recipes*.

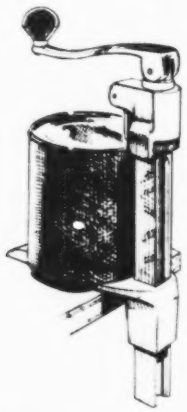


The **baker's table** is specially designed for preparing foods with flour. It has a thick wooden top with borders on the edges to keep flour from spilling onto the floor. Bins and drawers for storing baking ingredients are kept under the table for easy access.

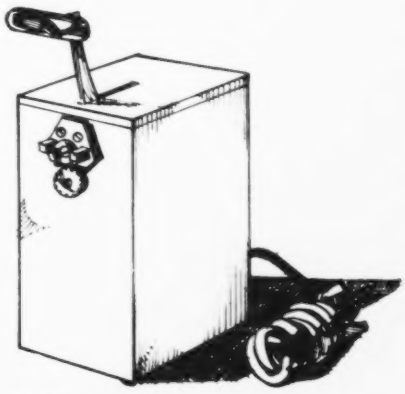


Information Sheet 3 (continued)
Major Kitchen Equipment

The **can opener** is one of the most frequently used tools in the kitchen. It is used to remove the lids from metal cans. There are both electric and manual can openers.



Manual can opener.

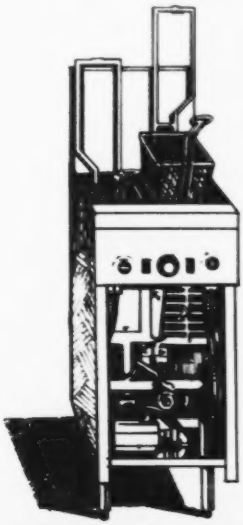


Electric can opener.

Hot Foods Equipment

The hot foods work station is usually the largest area in the kitchen and has the most equipment for cooking food. Food may be cooked by moist heat, dry heat, or in fat. Moist-heat cooking uses steam, pressurized steam, or a hot liquid. Dry-heat cooking uses hot air, forced hot air, or a heated surface. Cooking in fat uses hot oil or fat to cook the food. Each of the following pieces of hot-food cooking equipment is used with one or more of these methods.

The **deep-fat fryer** cooks foods in a bath of liquid fat. It is like boiling the food in a container of hot, bubbling oil instead of water. Foods that are deep-fat fried are French fries, fruit-filled pies, and breaded foods such as fish, chicken, and seafood.



Conventional gas fryer with racks for lowering baskets.

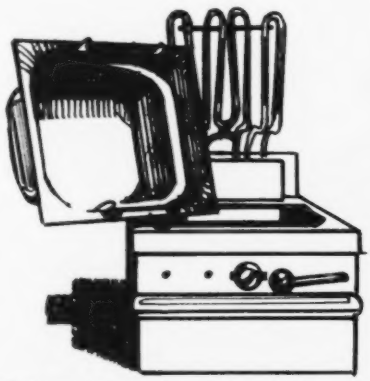
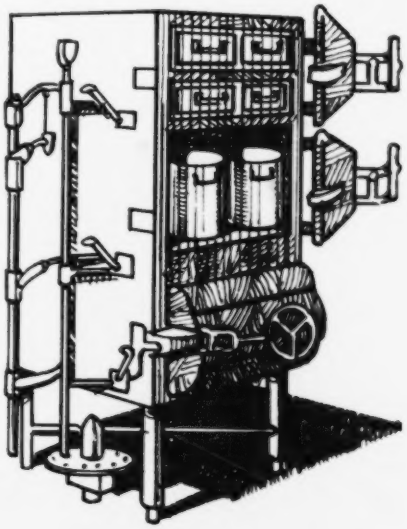
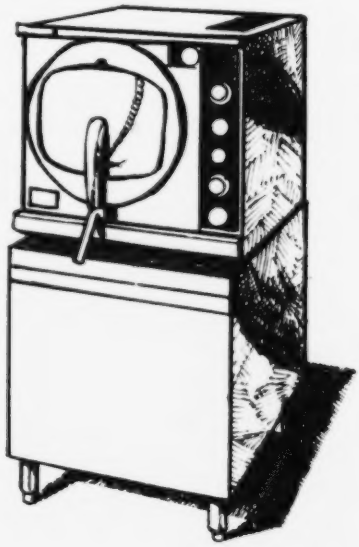


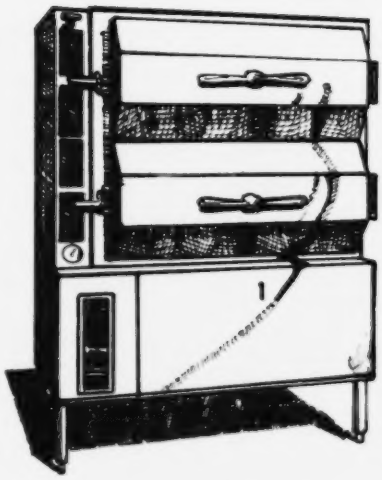
Table top electric fryer. Note heating element and fat pan.

Information Sheet 3 (continued)
Major Kitchen Equipment

Steamers use pressurized steam to cook or heat foods rapidly. Water is heated by gas or electricity to make steam and cook such foods as vegetables, potatoes, meats, and poultry. There are several different models of steamers made by numerous manufacturers.

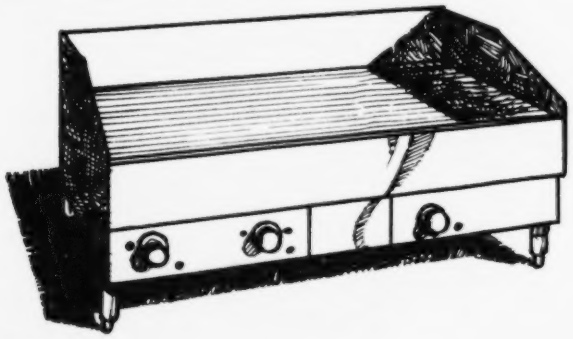






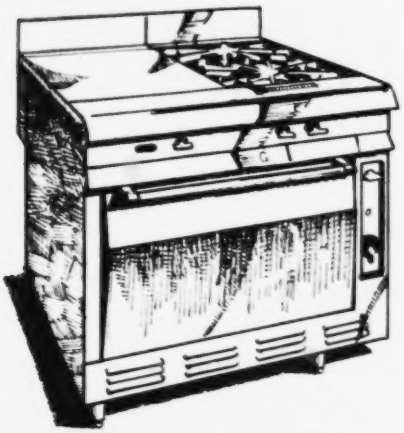
Information Sheet 3 (continued)
Major Kitchen Equipment

The **griddle** (sometimes called a grill) is a flat, solid metal plate that is heated by gas or electricity. It can be a countertop piece of equipment, or it can be part of a large range. It is covered with a light coat of oil and used to cook short-order foods such as hamburgers, eggs, pancakes, and bacon.



Countertop gas griddle.

The **range** is an all-purpose piece of cooking equipment. It is designed for surface heating of foods in pots and pans, and it has an oven for baking and roasting. Among the tops that can come with a range are open burners, solid-square hot tops, solid-round French plates, griddles, and even broilers. They may be heated either by gas or electricity.

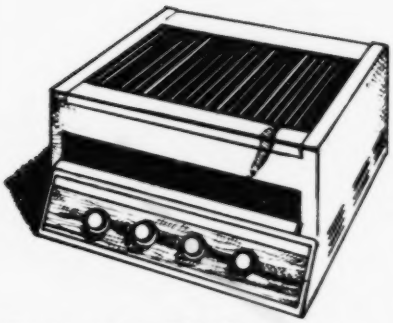


Gas range with a solid-square hot top (left), two open-top burners (right), and a single-unit general purpose oven.

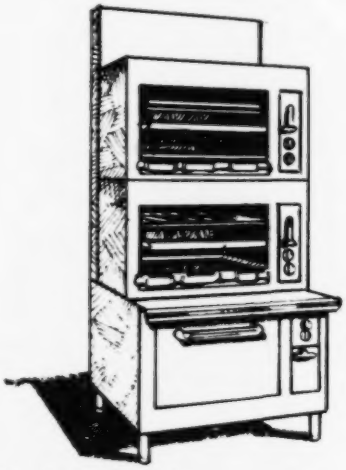
Electric range with six round French plates (left), griddle (right), elevated broiler (top right), double-deck shelf (top left), and double ovens.

Information Sheet 3 (continued)
Major Kitchen Equipment

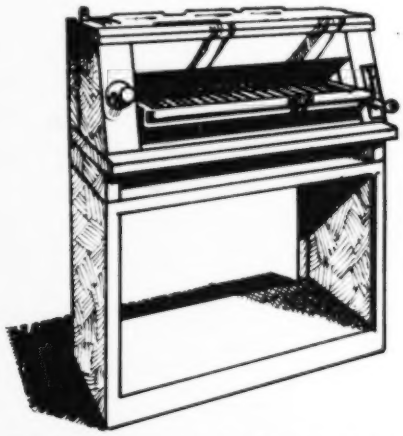
The **broiler** uses radiant heat or infrared heat to cook food. It is truly a dry-heat cooking method because no liquid is added when cooking. The food is placed on a grill directly over or under the heat source. Heat usually is generated by gas flame, electric coil, a ceramic heating element or charcoal. Meats, poultry, and seafood often are prepared by broiling.



Counter-top hearth broiler.

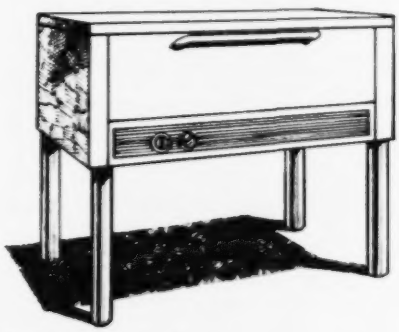


Over-fired gas broiler.

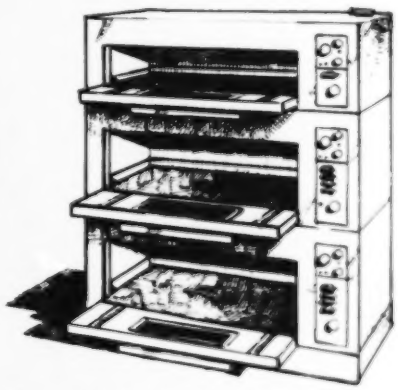


Free standing ceramic broiler with stand.

The **conventional oven** is an insulated metal box heated by gas or electricity. It is used for baking, roasting, and general-purpose cooking. It can be a one-deck unit; more commonly, ovens are stacked two, three, or four decks high.



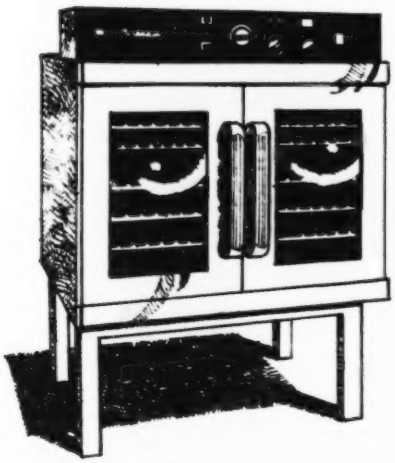
Gas one-deck roast oven.



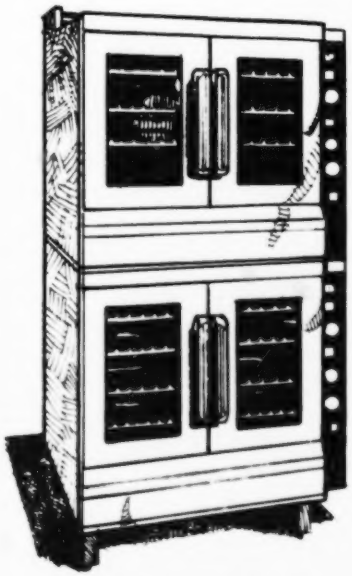
Electric combination oven with bake oven (top) and two all-purpose ovens (bottom).

Information Sheet 3 (continued)
Major Kitchen Equipment

The **convection (air flow) oven** differs from the conventional oven in that it uses hot moving air to cook the food. The air is heated by gas or electricity and evenly circulated throughout the oven by an electric fan.

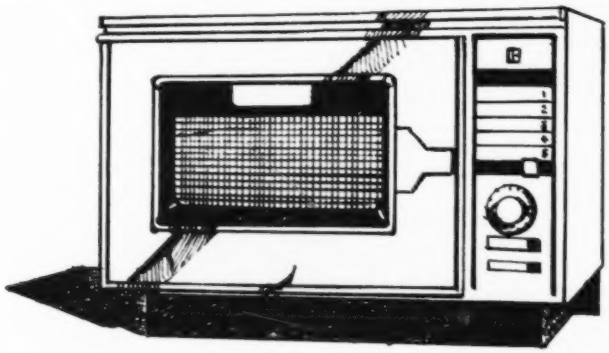


Electric single-deck convection oven with stand.



Gas double-deck convection oven.

Microwave ovens cook by means of heat produced as a result of microwave penetration of the food. Microwave ovens are the newest type of oven to be used on a widespread basis. They are especially good for rapid cooking and for reheating single servings. Microwave ovens are used in many fast-food restaurants.

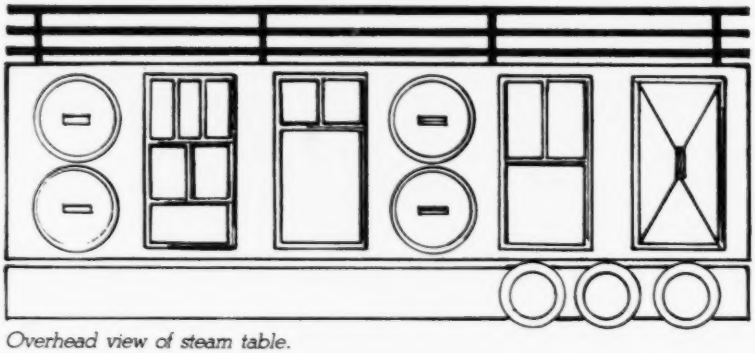


Information Sheet 3 (continued)
Major Kitchen Equipment

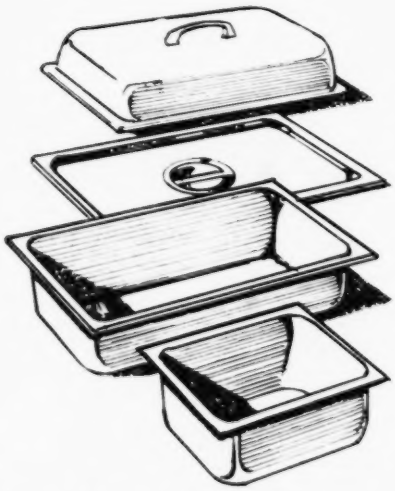
Pickup and Holding Equipment

Equipment in this work station is used for two purposes: (1) *to provide beverage service*—for example, coffee makers, soft-drink dispensers, and tea dispensers (for more information on the different types of beverage equipment and how to use them, see LAP 5.3, Beverages); (2) *to keep food at correct temperatures before serving*—for example, electronically chilled counters, cold tables, heat lamps, roll warmers, and steam tables. The steam table requires special training for its proper use.

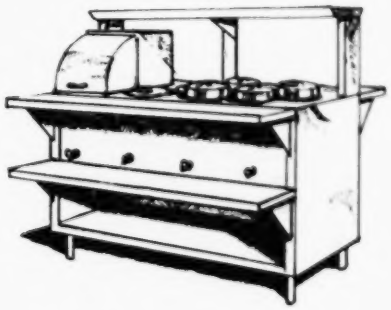
Steam tables are used to keep foods warm until they are served. Metal pans of different sizes hold the food over a bath of hot water. The pans fit into open sections of the steam table. The water is heated by gas, electricity, or steam pipes.



Overhead view of steam table.



Steam table pans.

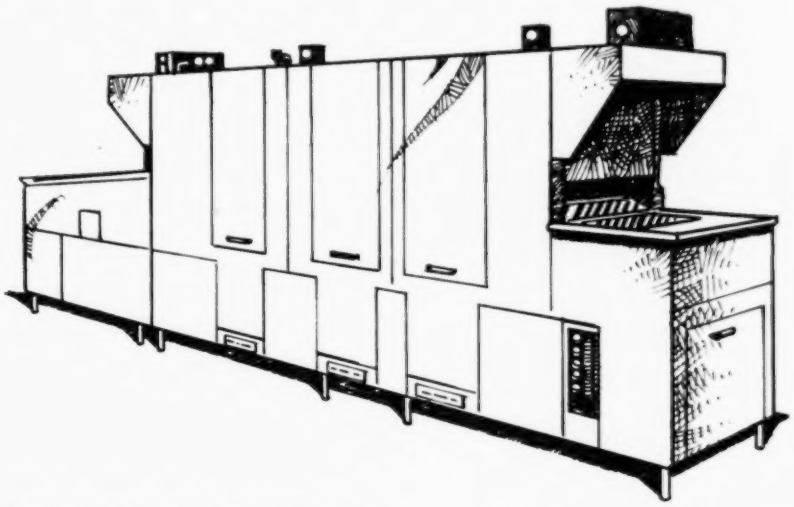


Steam table.

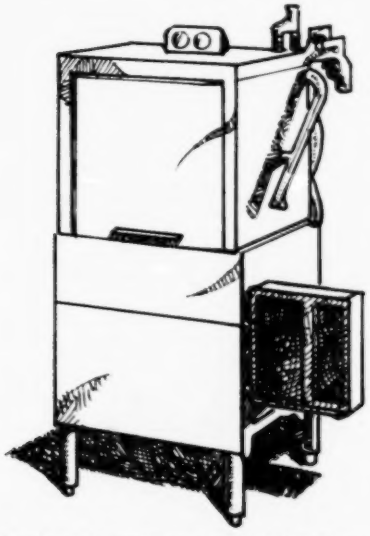
Information Sheet 3 (continued)
Major Kitchen Equipment

Dishwashing Equipment

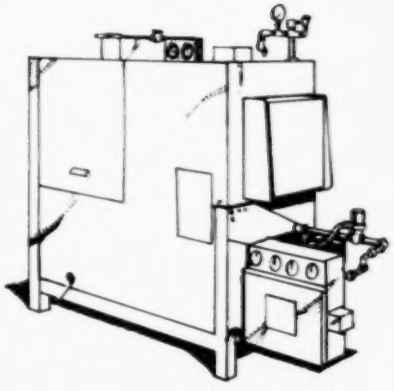
There are several types of dishwashers, including the single-tank, stationary rack (door type), the rack conveyor type, and the flight type. Using a mechanical dishwasher instead of hand washing each dish is much faster, more effective, and requires fewer workers. For further information on automatic dishwashers and the proper techniques for hand washing dirty pots, pans, and utensils, see LAP 3.2, *Washing Dishes and Pots.*



Flight type dishwasher with prewash, wash, rinse, and blower dryer.



Single-tank, stationary rack dishwasher (door type).



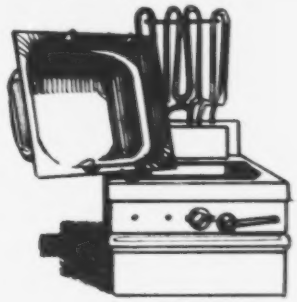
Rack conveyor type dishwasher with prewash, wash, and rinse.

Activity 3A
Equipment Identification

Directions

Look at the pictures of kitchen equipment. **On a separate sheet of paper,** write the correct name for each picture, selected from the word bank on page 23.

DO NOT WRITE IN THIS LAP



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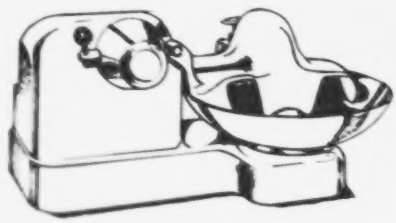

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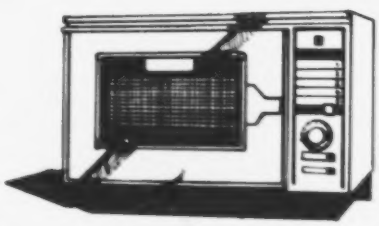
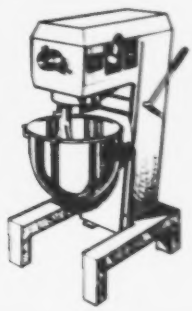


3. _____



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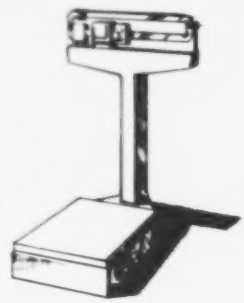

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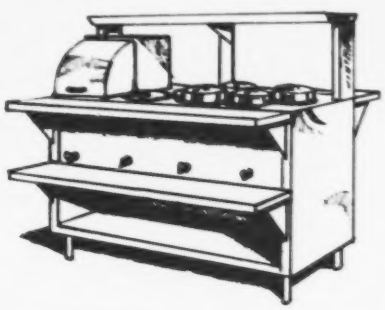

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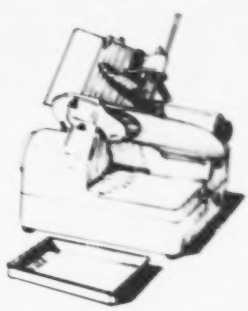

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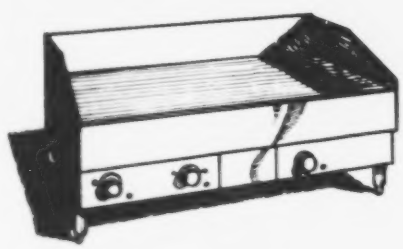

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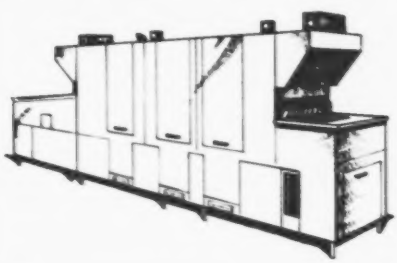

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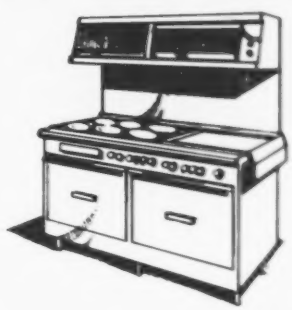

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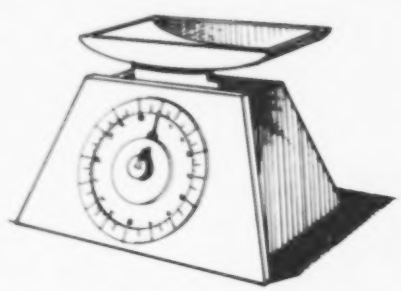

11. _____

Activity 3A (continued)
Equipment Identification

Word Bank

platform scale
slicer
food chopper
mixer
baker's scale
portion scale
deep-fat fryer
baker's table
griddle
food grinder
range
broiler
conventional oven
convection oven
microwave oven
steam table
dishwasher
can opener
steamer

Check your answers in the back of this LAP. If you missed any, review Information Sheet 3.

Activity 3B
Equipment Descriptions

Directions

Read the following statements describing kitchen equipment. **On a separate sheet of paper,** write out the statements. Then, using the word bank below, write the name of the equipment beside its correct description.

DO NOT WRITE IN THIS LAP

1. _____: Uses radiant heat or infrared heat to cook food.
2. _____: Used for accurately weighing ingredients or bread dough.
3. _____: Used to cook foods in a bath of hot, bubbling oil.
4. _____: Uses hot moving air to cook food.
5. _____: Uses pressurized steam to cook or heat food rapidly.
6. _____: Used to cook short-order foods such as hamburgers, eggs, and pancakes.
7. _____: Uses a high-speed metal blade to cut food into small pieces.
8. _____: Used for baking, roasting, and general-purpose cooking.
9. _____: Used to remove lids from metal containers.
10. _____: Designed to prevent flour from spilling off the edges when preparing foods.
11. _____: Used to chop and grind food (usually meat).

Word Bank

platform scale
slicer
food chopper
mixer
baker's scale
portion scale
deep-fat fryer
baker's table
griddle
food grinder
range
broiler
conventional oven
convection oven
microwave oven
steam table
dishwasher
can opener
steamer

Check your answers in the back of this LAP. If you missed any, review Information Sheet 3.

Answer Keys for Written Activities

Activity 1:
Matching Vocabulary Words

1. **work station**—an area in a kitchen where workers perform similar tasks
2. **kitchen flow**—the movement of foods and supplies through a kitchen
3. **garbage**—food waste
4. **trash**—*manufactured products* that have become waste, such as cardboard boxes, metal cans, plastic or paper cups
5. **beverage**—a liquid for drinking, such as coffee, milk, or a soft drink
6. **radiant heat**—heat from an electric heating coil or a gas flame
7. **infrared heat**—invisible heat rays that can be used to cook food
8. **insulated**—built with special material to prevent loss of heat

Activity 2A:
Work Stations

1. **cold foods area:** Foods that do not require cooking are prepared here.
2. **hot foods area:** This is one of the most active work stations in the kitchen.
3. **receiving area:** Foods and supplies are counted and weighed here.
4. **dishwashing area:** Here trash, garbage, and dirty dishes are separated out.
5. **storage area:** Foods and supplies are kept here until needed at the other work stations.
6. **baking area:** Cakes, pies, and pastries are made here in larger restaurants.
7. **pickup and holding area:** Food is kept warm or cool here until ready to serve.
8. **prepreparation area:** Certain foods are cleaned, trimmed, and cut up in this station.

Activity 2B:
Kitchen Flow

1. Kitchen flow is the **movement** of food and supplies within and through a kitchen.
2. All items enter the kitchen through the **receiving** area.
3. Most items coming into the kitchen will go directly to the **storage** areas.

Answer Keys for Written Activities (continued)

4. Two types of storage areas are **cold** and **dry.**
5. As items are needed, they are moved from storage into a **food preparation** area.
6. **Kitchen flow** is like an assembly line for food preparation.
7. Understanding kitchen flow will help you **work** more efficiently and save you **time** and **energy** in preparing meals.

Activity 3A:
Equipment Identification

1. **deep-fat fryer**
2. **food chopper**
3. **microwave oven**
4. **mixer**
5. **platform scale**
6. **steam table**
7. **slicer**
8. **griddle**
9. **dishwasher**
10. **range**
11. **portion scale**

Activity 3B:
Equipment Descriptions

1. **broiler:** Uses radiant heat or infrared heat to cook food.
2. **baker's scale:** Used for weighing ingredients or bread dough.
3. **deep-fat fryer:** Used to cook foods in a bath of hot, bubbling oil.
4. **convection oven:** Uses hot moving air to cook food.
5. **steamer:** Uses pressurized steam to cook or heat food rapidly.
6. **griddle:** Used to cook short-order foods such as hamburgers, eggs, and pancakes.
7. **food chopper:** Uses a high-speed metal blade to cut food into small pieces.
8. **conventional oven:** Used for baking, roasting, and general-purpose cooking.
9. **can opener:** Used to remove lids from metal containers.
10. **baker's scale:** Designed to prevent flour from spilling off the edges when preparing foods.
11. **food grinder:** Used to chop and grind food (usually meat).

State of Florida
Department of Education
Ralph D. Turlington, Commissioner of Education
Tallahassee, Florida
Affirmative action/equal opportunity employer

Division of Vocational, Adult, and Community Education

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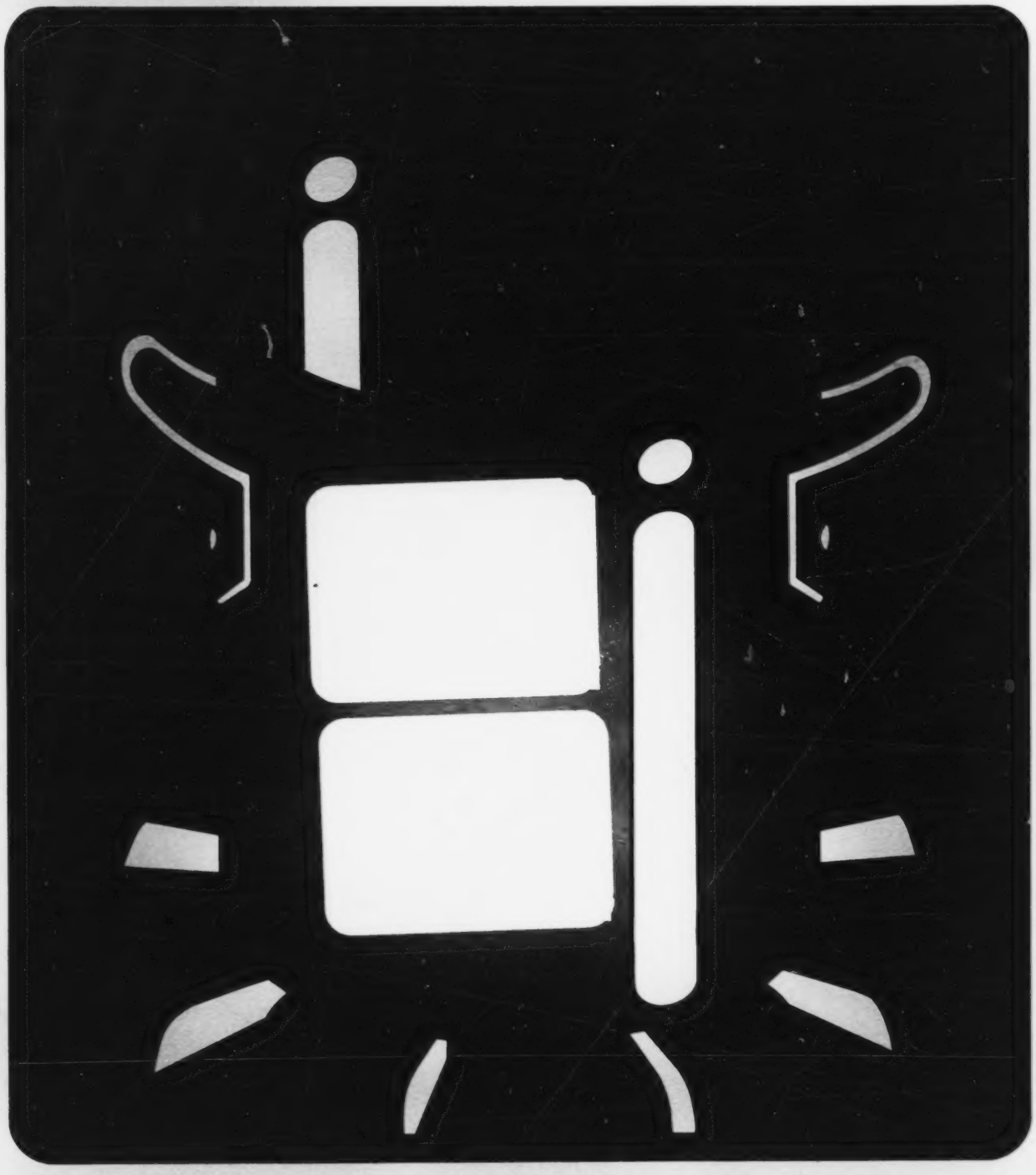
IE 306 BK 85

INSTRUCTOR'S GUIDE
LAP
4.1

Introduction to Commercial Cooking Equipment

Equipment Handling, Operation, and Maintenance



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Division of Vocational, Adult, and Community Education
Department of Education
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INSTRUCTOR'S GUIDE
LAP
4.1

Introduction to Commercial Cooking Equipment

Equipment Handling, Operation, and Maintenance

State of Florida
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Division of Vocational, Adult, and Community Education

January 1985

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Food Management, Production, and Services: Competency-Based Curriculum, developed for the Tennessee State Department of Education, Division of Vocational Education, Nashville, Tennessee.

Career Related Instruction Series: *Baking and Pastry; Food Preparation; Food Service,* developed at the Capital Area Career Center, Mason, Michigan.

Also used were:

Employability Skills Series: *Good Work!* and *Food Production and Services: Learning Manager's Guide,* developed by the Florida Division of Vocational, Adult, and Community Education.

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These materials are endorsed for use in training commercial foods and culinary arts workers by the **Florida Restaurant Association's Education Foundation**.

Contents

Contents of Instructor's Guide 4.1

Instructional Matrix 3

Notes to the Instructor 4

Suggested Instructional Procedures 5

Written Test 7

Answer Key for Written Test 13

Contents of LAP 4.1

Introduction 2

Vocabulary 3

Work Stations and Kitchen Flow 5
Work Stations 5
Kitchen Flow 7

Major Kitchen Equipment 10
Receiving Equipment 10
Storage Equipment 10
Prepreparation Equipment 11
Cold Foods Equipment 12
Baking Equipment 13
Hot Foods Equipment 15
Pickup and Holding Equipment 20
Dishwashing Equipment 21

Answer Keys for Written Activities 25

Instructional Matrix

Directions If you want to use only part of the materials in this LAP, use this matrix to help you select what you need.

Objectives	Instructional Materials	Practice and Feedback	Evaluation
Knowledge Objectives	**Information Sheets**	**Written Activities**	**Written Test Items**
1. Match a list of vocabulary words with their definitions. (At least 7 out of 8 must be correct.)	1: Vocabulary	1: Matching Vocabulary Words	Part I: 1-8
2. Match descriptions of work stations with their correct names. (All 8 must be correct.)	2: Work Stations and Kitchen Flow	2A: Work Stations	Part II: 1-8
3. Complete statements about kitchen flow by filling in blanks with words selected from a word bank. (At least 9 out of 10 must be correct.)	2: Work Stations and Kitchen Flow	2B: Kitchen Flow	Part III: 1-10
4. Match pictures of kitchen equipment with their names selected from a word bank. (All 11 must be correct.)	3: Major Kitchen Equipment	3A: Equipment Identification	Part IV: 1-11
5. Match descriptions of kitchen equipment with their names selected from a word bank. (At least 10 out of 11 must be correct.)	3: Major Kitchen Equipment	3B: Equipment Descriptions	Part V: 1-11

Notes to the Instructor

General Notes

- This LAP is the first of five LAPs about commercial cooking equipment.
- Complete this LAP before starting work on any of the other LAPs in this section.

OPPS

There are no Florida **OPPS** (Occupational Proficiency Performance Standards) that cover this information.

V-TECS

There are no Florida/**V-TECS** (Vocational-Technical Education Consortium of States) materials that cover this information.

Career MAP

There are no **Career MAP** (Career *M*erit *A*chievement *P*lan) competencies that cover this information.

Special Needs

There are no materials designed for educable mentally retarded/handicapped (EMR/EMH) or academically disadvantaged students that cover this information.

Suggested Instructional Procedures

Individual Instruction

If you choose to have student(s) use this LAP as a self-paced, self-instructional unit, have the student(s) follow the learning steps in the LAP, as listed below.

Learning Steps in LAP 4.1

1. Read and study **Information Sheet 1:** Vocabulary.
2. Complete **Activity 1:** Matching Vocabulary Words. Check your answers.
3. Read and study **Information Sheet 2:** Work Stations and Kitchen Flow.
4. Complete **Activity 2A:** Work Stations. Check your answers.
5. Complete **Activity 2B:** Kitchen Flow. Check your answers.
6. Read and study **Information Sheet 3:** Major Kitchen Equipment.
7. Complete **Activity 3A:** Equipment Identification. Check your answers.
8. Complete **Activity 3B:** Equipment Descriptions. Check your answers.
9. Get **Written Test 4.1** from your instructor and complete it. If you are successful, you have completed this LAP; if not, talk with your instructor.

Group Instruction

If you choose to use this LAP as a unit of instruction for more than one student, the following teaching steps are suggested.

Teaching Steps for LAP 4.1

1. Introduce the subject of commercial cooking equipment.
2. Discuss the objectives in LAP 4.1
3. Discuss the vocabulary words with the group.
4. Have each student read the information sheets and do the written activities in the LAP.
5. As a group, discuss work stations in your school kitchen, their functions, and kitchen flow.
6. Take a tour of a commercial kitchen and briefly discuss the types of equipment found in each work station.

Suggested Instructional Procedures (continued)

7. Give the students Written Test 4.1 to complete. Evaluate the results, using the Answer Key in this Instructor's Guide. Make special arrangements for those who do not master this unit.

8. Use the additional instructional activities/enrichment with the group or with individual students.

Additional Instructional Activities/Enrichment

Suggested Readings

Haines, Robert G. *Food Preparation for Hotels, Restaurants, and Cafeterias*. 2nd ed. Alsip, Ill.: American Technical Publishers, 1973.

Avery, Arthur C. *A Modern Guide to Foodservice Equipment*. Boston, Mass.: CBI Publishing Company, 1980.

Wilkinson, Jule. *The Complete Book of Cooking Equipment*. 2nd ed. Boston, Mass.: CBI Publishing Company, 1981.

Written Test 4.1
I. Matching Vocabulary

Directions

Match each vocabulary word below with the correct definition. Write the letter of the correct definition in the blank beside the word.

Vocabulary Words

_____ (1) **beverage**

_____ (2) **insulated**

_____ (3) **work station**

_____ (4) **radiant heat**

_____ (5) **kitchen flow**

_____ (6) **trash**

_____ (7) **garbage**

_____ (8) **infrared heat**

Definitions

a. an area in a kitchen where workers perform similar tasks

b. the movement of foods and supplies through a kitchen

c. food waste

d. manufactured products that have become waste, such as cardboard boxes, metal cans, plastic or paper cups

e. a liquid for drinking, such as coffee, milk, or a soft drink

f. heat from an electric heating coil or a gas flame

g. invisible heat rays that can be used to cook food

h. built with special material to prevent loss of heat or cold

Written Test 4.1 (continued)
II. Work Stations

Directions

Match each description of a kitchen work station with its correct name, selected from the word bank below. Write the name beside the description.

1. _____: Foods and supplies are counted and weighed here.

2. _____: This is one of the most active work stations in the kitchen.

3. _____: Certain foods are cleaned, trimmed, and cut up in this station.

4. _____: Cakes, pies, and pastries are made here in larger restaurants.

5. _____: Food is kept warm or cool here until ready to serve.

6. _____: Foods and supplies are kept here until needed at the other work stations.

7. _____: Foods that do not require cooking are prepared here.

8. _____: Here trash, garbage, and dirty dishes are separated out.

Word Bank

receiving area
storage area
prepreparation area
cold foods area
baking area
hot foods area
pickup and holding area
dishwashing area

Written Test 4.1 (continued)
III. Kitchen Flow

Directions

Read the following statements. Fill in the blanks with the correct words selected from the word bank below.

Kitchen flow is the (1) _____ of foods and supplies through a kitchen.

All items enter the kitchen through the (2)_____ area.

Most items coming into the kitchen go directly to the (3) _____ areas.

Two types of storage areas are (4) _____ and (5) _____.

As items are needed, they are moved from storage into a (6) _____ area.

(7) _____ is like an assembly line for food preparation.

Understanding kitchen flow will help you (8) _____ more efficiently and save you (9) _____ and (10) _____ in preparing meals.

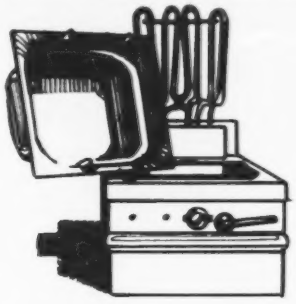
Word Bank

wet
storage
cold
work station
movement
energy
type
pickup and holding
dry
food preparation
work
receiving
hot
kitchen flow
time

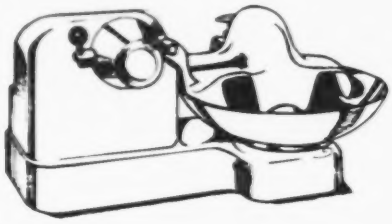
Written Test 4.1 (continued)
IV. Equipment Identification

Directions

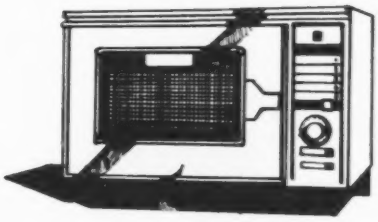
Look at the pictures of kitchen equipment. Write the correct name for each picture, selected from the word bank on page 11.



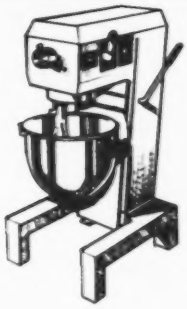
1. _____



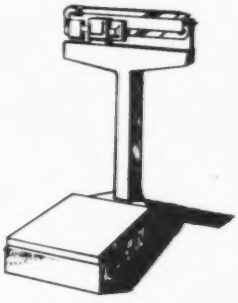
2. _____



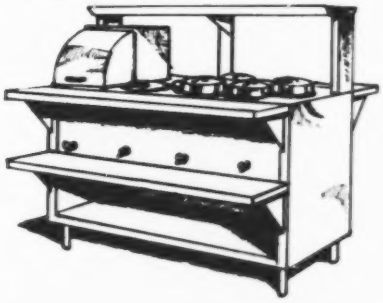
3. _____



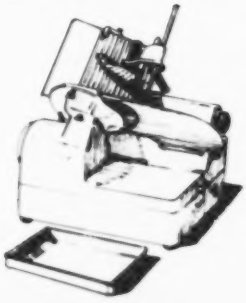
4. _____



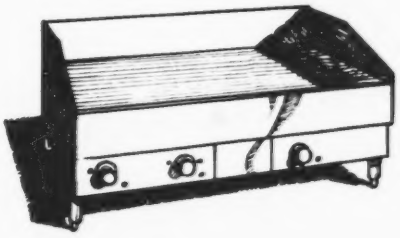
5. _____



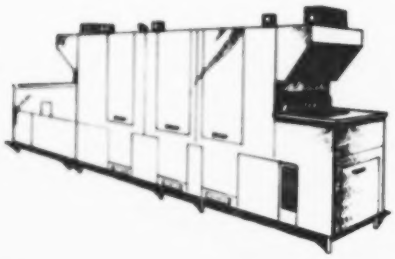
6. _____



7. _____

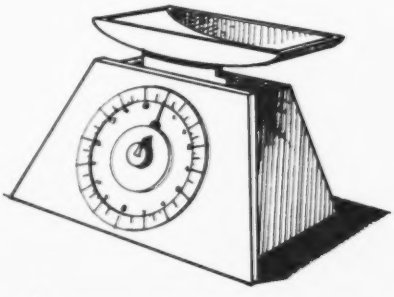


8. _____



9. _____

10. _____



11. _____

Written Test 4.1 (continued)
IV. Equipment Identification

Word Bank

platform scale
slicer
food chopper
mixer
baker's scale
portion scale
deep-fat fryer
baker's table
griddle
food grinder
range
broiler
conventional oven
convection oven
microwave oven
steam table
dishwasher
can opener
steamer

Written Test 4.1 (continued)
V. Equipment Descriptions

Directions

Match each description of kitchen equipment with its correct name, selected from the word bank below. Write the name beside the description.

1. _____: Uses radiant heat or infrared heat to cook food.
2. _____: Used for accurately weighing ingredients or bread dough.
3. _____: Used to cook foods in a bath of hot, bubbling oil.
4. _____: Uses hot moving air to cook food.
5. _____: Uses pressurized steam to cook or heat food rapidly.
6. _____: Used to cook short-order foods such as hamburgers, eggs, and pancakes.
7. _____: Uses a high-speed metal blade to cut food into small pieces.
8. _____: Used for baking, roasting, and general-purpose cooking.
9. _____: Used to remove lids from metal containers.
10. _____: Designed to prevent flour from spilling off the edges when preparing foods.
11. _____: Used to chop and grind food (usually meat).

Word Bank

platform scale
slicer
food chopper
mixer
baker's scale
portion scale
deep-fat fryer
baker's table
griddle
food grinder
range
broiler
conventional oven
convection oven
microwave oven
steam table
dishwasher
can opener
steamer

Answer Key for Written Test

Each section in the Written Test covers one objective and, therefore, should be evaluated separately. Criteria for evaluating each section are suggested below.

I. To master this objective, the student should answer 7 of these correctly.

1. h
2. d
3. e
4. g
5. f
6. a
7. b
8. c

II. To master this objective, the student should fill in all blanks correctly.

1. receiving area
2. hot foods preparation area
3. prepreparation area
4. baking area
5. pickup and holding area
6. storage area
7. cold foods area
8. dishwashing area

III. To master this objective, the student should fill in 9 blanks correctly.

1. movement
2. receiving
3. storage
4. cold
5. dry
6. food preparation
7. kitchen flow
8. work
9. time
10. energy

IV. To master this objective, the student should fill in all blanks correctly.

1. griddle
2. microwave oven
3. portion scale
4. mixer
5. deep-fat fryer
6. range
7. dishwasher
8. steam table
9. food chopper
10. slicer
11. platform scale

Answer Key for Written Test (continued)

V. To master this objective, the student should fill in 10 blanks correctly.

1. broiler
2. baker's scale
3. deep-fat fryer
4. convection oven
5. steamer
6. griddle
7. food chopper
8. conventional oven
9. can opener
10. baker's table
11. food grinder

State of Florida
Department of Education
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Tallahassee, Florida
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